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RIte Stats

Analysis of RIte Care Utilization Data

Rhode Island Department of Human Services
Center for Child and Family Health

Director's Message

The third issue of RIte Stats deals with one of the most frequently asked questions about the RIte Care program: Utilization of Services Provided in Hospital Emergency Departments (ED).

While access to ED services is absolutely essential, care needs to be taken to assure that members are being channeled to the most timely, clinically appropriate and cost-effective treatment options. In addition, excessive use of EDs can suggest problems with access to routine preventive care. It is hoped that the analysis, which follows, will be informative and establish a basis for future monitoring of these important services.

Best regards,

Jane A. Hayward, Director

Background

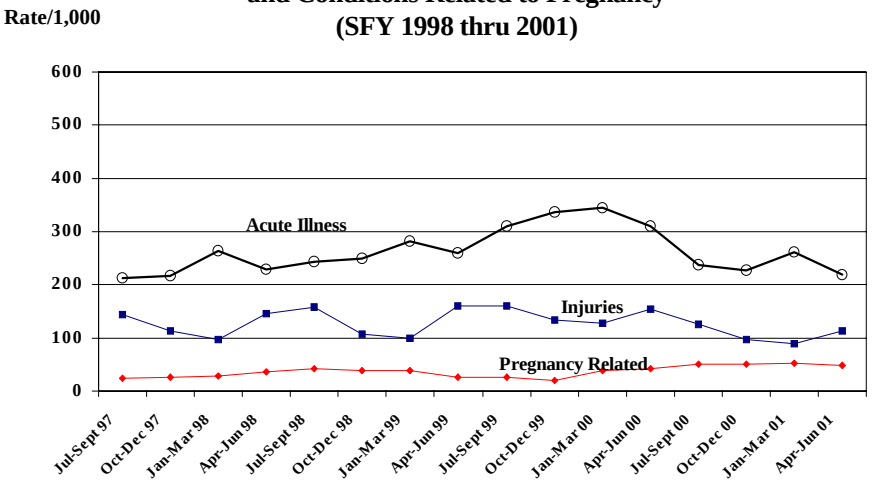
This issue of RIte Stats deals with services provided in hospital emergency departments for RIte Care members during State Fiscal Years (SFY) 1997 through 2001. Trends in ED utilization are monitored over time and by relevant categories of service such as acute illness, accidental injuries and conditions related to pregnancy. We also look at utilization during the most current year (SFY 2001) by age, gender and diagnosis and examine the cost of ED services relative to alternative sources of urgent care. Recommendations for additional oversight and monitoring functions are also considered.

Monitoring utilization of ED services is an important component of the State's continuous quality improvement program for a number of reasons. First of all, it is essential that RIte Care members have access to high quality emergency facilities on an around the clock basis to assure timely and appropriate care when an emergency arises. On the other hand, patients seen in EDs are often required to wait several hours before being treated and ED services are considerably more costly than alternative sites of urgent care. Furthermore, excessive use of EDs can indicate a breakdown in access to appropriate routine primary care. As such, care must be taken to be sure that members are not channeled to EDs when less costly and more effective services are available.

Trends in ED Utilization

Annualized ED utilization rates are presented in Figure 1 by quarter and treatment category: Acute Illness, Injuries, and Conditions Related to Pregnancy. Acute illness includes all non-accidental injuries that are not related to pregnancy such as otitis media, asthma, fever and non-specific symptoms such as chest pain. Mental health and substance abuse diagnoses are also included in the acute illness category. The injury category includes all accidental injuries including motor vehicle accidents and poisoning as well as the more obvious conditions such as fractures, lacerations, and contusions (i.e., bruises). The third category, conditions related to pregnancy, is particularly important to monitor in this population since a high percentage of the RIte Care population is made up of women of childbearing age.

Figure 1. ED Utilization Rates by Quarter and Treatment Category: Injuries, Acute Illness and Conditions Related to Pregnancy (SFY 1998 thru 2001)



Note: Quarter rates have been annualized by multiplying by 4.

Overall, quarterly ED utilization rates vary between about 400 and 500 visits per 1,000 members per year. As noted in previous issues of this publication, these rates are much lower than the pre-RIte Care rates of 700 or more[1], and lower than national Medicaid rates of about 640 visits per 1,000. [2] However, they remain higher than the rates found in the general population, which vary between 300 and 350 per 1,000 per year [3] and similarly higher than rates found in commercial populations even after adjusting for age and gender. Overall, though, ED utilization rates are clearly moving in a desirable direction and appear to be leveling off at a rate only slightly higher than the national rates.

Note that rates due to injuries averaged about 150 per 1,000 which is almost identical to national rates. [3] There is about a 20% variation in annualized rates from quarter to quarter and there appears to be some seasonal variation as well with spring and summer months being somewhat higher than corresponding fall and winter months.

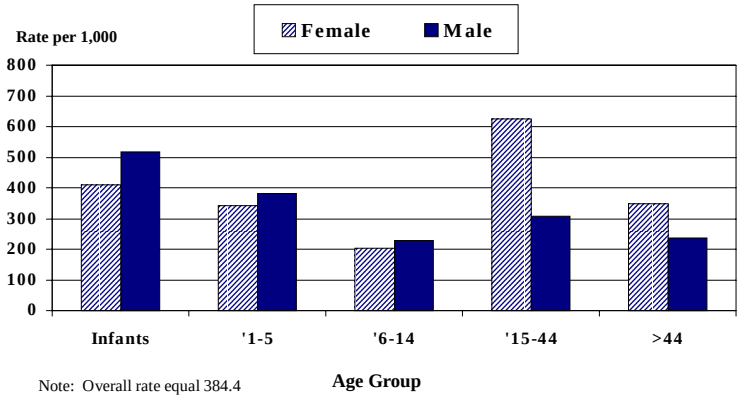
On the other hand, the acute illness rates varied between 200 and 300 per 1,000 with the exception of the four quarters in SFY 2000 which reached a high of over 350 per 1,000. Meanwhile, conditions related to pregnancy have remained fairly constant at about 40 per 1,000 throughout most of the time under study.

These findings suggest several areas which require additional monitoring. Absent an epidemic of any particular disease, several factors may have contributed to the abrupt increase in utilization due to acute illness during SFY 2000. During that time, the RIte Care population was expanding at a fairly rapid rate and perhaps the new members were not as well integrated into their primary care networks as the existing population. Alternatively, such trends may be the result of changes in access and availability to acute and after-hours services which need to be verified by further study.

Likewise, ED utilization for pregnancy related conditions is considerably higher among the RIte Care population than it is nationally even when adjusting for age and gender. While prenatal care is the leading reason for ambulatory care visits among women 15-44 nationally, [4] it is a relatively uncommon (< 5%) primary reason for a visit to a hospital ED nationally. Among RIte Care members, 25% of the ED visits for women 15-44 are due to conditions related to pregnancy.

The overall ED utilization rate for SFY 2001 was 384.4 per 1,000 and varied considerably by member age and gender (see Figure 2). Rates by age decrease from over 400 visits per 1,000 among infants to about 200 visits per 1,000 among the 6-14 age group before peaking among females in the 15-44 age group. ED rates among male infants is also considerably higher (~25%) than female infants. Much of this variation may be due to the location of primary care. Preliminary analysis suggests that patients who receive primary or prenatal care at certain hospital clinics have higher ED utilization rates than patients routinely treated by private physicians or at Health Centers.

Figure 2. ED Utilization Rates per 1,000 Population by Gender and Age Group (SFY 2001)



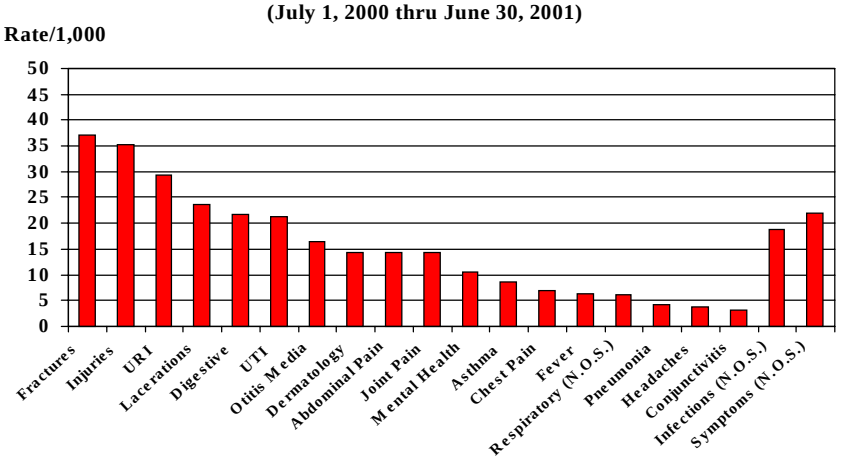
Note: Overall rate equal 384.4
n=43,441

Women in the 15-44 age group have by far the greatest utilization of ED services of any age/gender group in the program (623.6 per 1,000) even when adjusting for prenatal conditions. For example, even if we subtract conditions related to pregnancy from the category total, we still have a rate among women of 463.3 per 1,000 which is 1.5 times greater than the rate among men (308.7 per 1,000) in this age group and over twice the rate in the children 6-14.

Top 20 Conditions Treated in EDs

Figure 3 illustrates the top 20 conditions treated in emergency departments during SFY 2001 (excluding conditions related to pregnancy). Notice that while fractures, injuries and lacerations represent 3 of the top 4 conditions treated, all the remaining conditions in the top 20 are medical or mental health in nature. Furthermore, the pattern of utilization in RIte Care is similar to national data, [4,5] as upper respiratory tract infections (i.e., URI's; including sinusitis, laryngitis, and pharyngitis) are the most common medical conditions treated in the ED followed by digestive conditions, urinary tract infections (UTI), and otitis media.

Figure 3. Top 20 Conditions Treated in the ED during SFY 2001
(July 1, 2000 thru June 30, 2001)



Note: **Conditions related to pregnancy are excluded from this analysis.**
NOS = Not otherwise specified

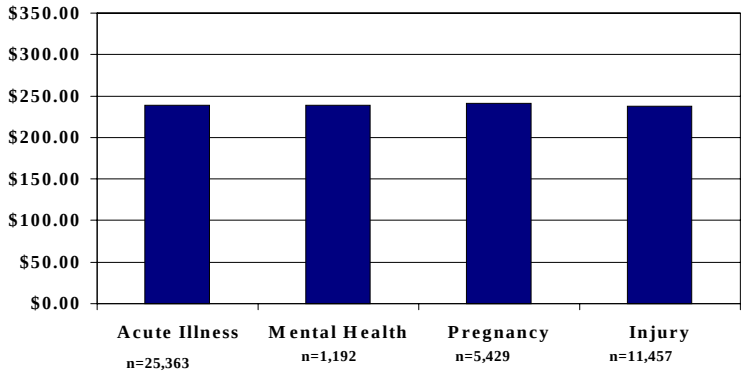
Furthermore, several of the top 20 conditions are primarily symptomatic in nature such as abdominal pain, joint pain, chest pain, headaches as well as symptoms not otherwise specified. Fever and infections (not otherwise specified) are also common conditions treated in the ED, as are mental health conditions, which include alcohol and drug abuse, and constitute an annual rate of about 10 per 1,000.

Pneumonia and other respiratory conditions are fairly common conditions in the population as a whole as are dermatology (mostly skin rashes) and conjunctivitis and it is not surprising that they appear among the most common conditions treated in the ED. Asthma, on the other hand, affects approximately 10% of the population as a whole yet it appears as one of the top 20 conditions treated in the ED among all RIte Care members. Furthermore, since asthma is an ambulatory care sensitive condition which disproportionately affects children [6], care needs to be taken to determine what proportion of these visits could have been avoided with appropriate routine preventive care. Here, we would try to avoid not only unnecessary ED utilization, but also the consequences of treating more severe symptoms. [7]

Costs

Visits to the ED among RIte Care members cost a total of about $10.4 million during SFY 2001. However, the average costs of ED visits (including both facility and professional fees) are presented in Figure 4 and are remarkably consistent across treatment categories. In fact, average costs vary by only a few dollars from about $238.00 for acute illness, mental health and injuries to a high of $241.00 for conditions related to pregnancy. Note that the average cost of an outpatient visit is about $65.00 suggesting that the potential cost savings of channeling members to a more cost effective form of care could have enormous financial as well as public health benefit.

Figure 4. Average Cost for ED Visits by Treatment Type (SFY 2001)



Note: Average costs include facility and professional fees. Total costs equal $10,379,606.

Comment

ED utilization among RIte Care members appears to be leveling off at about 400 visits per 1,000 members per year which is roughly comparable to national rates and considerably lower than pre-RIte Care rates in Rhode Island and current national Medicaid rates. Similarly, patterns of utilization based on diagnosis and primary reason for visit are remarkably similar in RIte Care to national non-Medicaid populations (i.e., the top 20 conditions treated in the ED are similar). Finally, while rates have fluctuated a bit from quarter to quarter over the past several years, there appears to be a consistent trend towards stabilization of ED rates in the most recent four quarters under study.

On the other hand, these results suggest several areas worthy of closer scrutiny. For example, differences in cost and utilization rates among Health Plans needs further clarification. Preliminary data suggest that members enrolled in primary care at certain hospital based clinics have higher ED utilization rates than members enrolled with private physicians or with health centers. Care needs to be taken to be sure that hospital based clinics are able to provide cost effective after-hours care. Similarly, rates among women 15-44 are sufficiently elevated even after adjustment

for conditions related to pregnancy to warrant closer scrutiny among this population. Finally, it would be useful to determine whether access to primary care is at all a factor in the ED experience among asthmatics and if more effective preventive care could reduce ED utilization and improve health among asthmatics in RIte Care.

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Program Description

RIte Care is the State of Rhode Island's managed health care program for families on Medicaid, uninsured families with incomes up to 185% of the Federal Poverty Level (FPL), uninsured pregnant women and children under 19 from families with incomes up to 250% of the FPL. Eligible individuals are enrolled in a managed care organization (MCO or Health Plan) which is paid a monthly capitation rate for providing or arranging health services for members. Eligibility for RIte Care is redetermined at twelve-month intervals, however, new members are guaranteed enrollment in a health plan for six months, even if eligibility for Medical Assistance is lost. The program was designed to improve access to health care by providing each member with a 'medical home' in the form of a primary care provider (PCP).

A comprehensive plan for evaluating RIte Care is being implemented by the Center for Child and Family Health under contracts with ACS/Birch and Davis Health Management Corporation, KRA Corporation, and MCH Evaluation, Inc. Health Plans are contractually required to submit quarterly data files to the State documenting all services provided to members. These files are edited extensively by EDS, the State's Medicaid fiscal agent, and become the foundation for most oversight activities. [8] In addition to quarterly review for face validity and reliability; these data are periodically validated against claims and medical records. Other evaluation activities include an annual member satisfaction survey, on-site review of Health Plan policies and procedures, selected focus groups, and a variety of health outcomes research.

RIte Stats is a bimonthly publication of the Center for Child and Family Health and is intended to provide information to the public on the health care provided in the RIte Care Program. It is edited by Bill McQuade, MPH and designed by Caralynn Dame who work under contract with the Center for Child and Family Health. Comments and inquiries are encouraged and should be sent to:

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